

Part One

SECOND CLASS MAIL REGISTRATION NUMBER 4405

CANADIANA
C.2

MAR - 5 1984



ENVIRONMENT VIEWS

Contents

Environment Views is published bi-monthly by Alberta Environment. Each issue deals with a specific topic from various viewpoints with the aim of increasing awareness of environmental issues among Albertans. *Environment Views* is directed by an independent board with representation from environmental groups, government and industry. The views expressed by the publication are not necessarily those of Alberta Environment.

Subscriptions are free and can be obtained by mailing the enclosed card. When notifying *Environment Views* of a change of address, please quote the subscription number on your mailing label.

Permission to reproduce any part of this publication for commercial purposes should be obtained by writing the address below. Reproduction for other purposes should credit this publication.

Letters to the editor are welcomed, and should be sent to the editor,
Environment Views
Alberta Environment,
Communications Branch
12th Floor, Oxbridge Place,
9820 - 106 Street,
Edmonton, Alberta T5K 2J6

Editor:
Maryhelen Vicars

Researcher:
Susan Bramm

Editorial Board:
Jacquie Champion, Carey Johannesson, Jerry Lack, Jim Martin, Mardi Matthews, Dave McCoy, Ray Rasmussen, Stephen Tyler, and Bob Westbury.

The editorial board was helped in preparing this issue by Dianne Pachal, executive director of the Alberta Wilderness Association; Jillian Flett of the Environmental Law Association, and Dr. Frank Tester of the Arctic Institute of North America. Pat Garneau and Adeline Northey of the *Edmonton Journal* library generously assisted in locating photographs.

Editor's Notebook	3
The Decade of Growth	5
The 1960s marked the beginning of the modern environment movement in Alberta and elsewhere.	
The Movement's Roots	10
Early nature-lovers sowed the seeds of today's environment movement.	
The Economics of Ecology	13
What's the bottom line on environmental protection?	
What are the issues?	17
Some intriguing answers from Alberta's environmentalists.	
Part of the System	21
Environmental concerns are now firmly entrenched in government, industry and education.	
The Public View	24
Has the environment movement changed our lives?	
Using Environment Views in the Classroom	27
Environment Update	28

Editor's Notebook



WARREN CLARK

In the words of the cigarette ads: we've come a long way, baby.

Not that we should be resting on our laurels, but a lot has been accomplished in the two decades or so since the environment movement began.

It's an interesting exercise to attempt to chart just when this remarkable raising of public consciousness began; when it was not just eccentrics or professionals who were alarmed — and activated — by polluted lakes and endangered species. Was it the publication of *Silent Spring*? In Canada, was it the widespread growth of industry and of the urban areas after the war?

As a baby boomer, the first environmental issue I remember hearing discussed widely was the matter of high-phosphate detergents, blamed for the nasty scum seen along the lakeshore and riverbanks.

And this issue may serve as a good example of the kind of successes environ-

mentalism has had. At first, there was media attention about the problem, which created pressure on government to act. It was also seen that individuals could act; my family switched to soap powder and washing soda. Eventually, both government and industry took action: governments regulated the level of phosphates which could be used, and industry developed new detergents which promised whiter-than-white without phosphates.

Sadly, many other environment problems have evaded such simple resolution. (In fact, says David Spink of Alberta Environment's standards and approvals division, municipal engineering branch, there is now concern that one of the chemicals that replaced phosphate may create an even greater hazard, by inhibiting the removal of metals during water treatment. Soap-and-soda, anyone?)

This is the first of two issues of *Environment Views* which will cover the environ-

ment movement of the Eighties. In this first issue, we will look at the establishment of environmentalism as a popular movement and how it has evolved and become integrated into the fabric of our lives.

We begin with a look at the pivotal decade of the Sixties (actually in terms of its peculiar social phenomena, from about '66 to '73); the time of the Greening of America. It was a time of great blossoming of public — and media — awareness of the environment, and it was also a time of action.

Protesters took the issues of the day to the streets with placards and to the politicians with letter writing campaigns. Privately, many people became aware of their own role in protecting the environment and took action through such measures as recycling. They also headed for the wilderness they were pledged to protect. In record numbers, they took up hiking, cross-country skiing, canoeing and cycling.

Letters

Dear Editor:

I am writing to compliment you on *Environment Views* and in particular on the "Outdoor Recreation" issue. The magazine is invariably informative and productive and I have found several of the theme issues useful as teaching materials in my undergraduate geography and environmental studies classes. While I am using it in Ontario it serves to increase awareness here of western Canadian environmental issues and provides a basis for comparison with those we face here. I think it is a credit to yourself and the government agency producing it and hope, while other governments such as B.C. are cancelling environmental publications, that *Environment Views* will continue and serve its most worthwhile educational function.

John Marsh, Chairman
Environmental and
Resource Studies Program

Dear Editor:

I have been reading *Environment Views* for about two years, and have found the magazine not only informative and interesting, but just plain good reading as well. As a graduate student in Zoology, I have found



ALBERTA GOVERNMENT PHOTO

E.V. helpful in instructing laboratories.

However, there is one aspect of the environment in Alberta that you have only briefly skimmed. That is the natural history of the flora and fauna here. I think that it is important for persons who try to become environmentally aware to have an understanding of the basic biology of their surroundings. I'm sure that your readers would benefit from some of this sort of exposure.

Our building here at the U. of A. is chock full of people who have expertise in one area or another of the ecology and natural history of this province. I myself am an ecologist

whose interests lie in the relationships between plants and their insect pests (especially aphids). Others work on things as diverse as stream or lake fish ecology, waterfowl, large wildlife species, birds (magpies and grouse especially) and even the insects associated with bog plants. We are a valuable resource, sitting here, waiting to be exploited.

Mike Antolin
Department of Zoology
University of Alberta

Editor's Notes continued

Was all this just a passing fad to be abandoned in the Eighties, the decade in which the bottom line has become all-important, and the Me generation rules?

Maybe not. Dr. Donald Chant, former head of the Canadian Environmental Advisory Council, says "Environmental concerns run as a thread through most people's lives today." He says he "doesn't know of any person who doesn't do something in his life today, no matter how trivial, because of environmental concerns." (see story p. 24)

One safeguard against neglect of the environment has been the way in which environmental concerns have become institutionalized; become a part of government, industry and education.

To illustrate the scope of one of those institutions, we have included a pull-out organization chart of Alberta Environment which outlines the range of concerns within each division. We hope it will be a handy tool for our readers in communicating with the department.

One frequently-articulated concern is that the less-bouyant economy of the present will mean that often-costly environment safeguards may be abandoned. But Jim Wilson was pleasantly surprised, in researching a story on the economics of environmentalism, to find these fears largely ungrounded. In both industry and government, decision-makers seem to be keeping the long-term benefits of environmental caution in mind.

For a look at the present state of environmentalism in Alberta, we asked Edmonton writer Liz Oskroft to poll a representative sample of environmental activists for their assessment of the pressing issues of this decade and into the future. (story p. 17)

In the next issue of *Environment Views*, we will look farther into that future, at how the movement has adapted to changing times. We will be looking at environmental education, in particular. As you will read in several stories in this issue, many environmentalists feel that education is the key to the progress the environment movement has made to date.

Maryhelen Vicars, a former journalist, is the freelance editor of *Environment Views*.

Gillian Sniatynski

The Decade of Growth



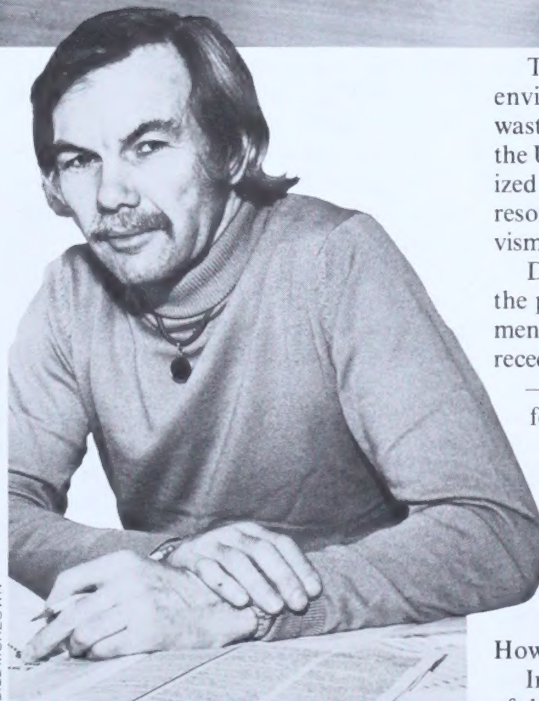
SUSAN BRUN

In any study of environmentalism, the late 1960s stand out as a watershed.

It's not by any means that environmental concern was invented then: awareness of the need to preserve forests, and of the impact of fire, for example, had been documented decades earlier. (Indeed, in the U.S., George Marsh's influential book "Man and Nature," which illustrated the dangers of destroying watersheds, was published in 1864.)

The changes of the Sixties stemmed from the coincidence of a particular set of people and a particular set of issues, and the unprecedented level of social protest and activism that ensued.

During the Sixties, the always-influential baby boom generation was joining the work force and entering the universities. In the U.S., male baby boomers were being drafted to fight the Vietnam war. And the war, as much as anything else, was responsible for the surge of environmental activism that followed it.



BILL MCKEOWN

Dennis Wighton

The war was, in the words of long-time environmentalist Susie Washington, "a waste of human and natural resources." In the U.S. particularly, a generation so sensitized to the *value* of human and natural resources was readily able to extend its activism to environmental issues as well.

During the Sixties, people began to see the price to be paid for the rapid development of earlier decades. Urban sprawl and receding farm land were causes for concern — and they were soon joined by new fears.

In 1962, Rachel Carson's book *Silent Spring* was published. In it, she graphically documented the effects of certain pesticides — among them the hitherto much-acclaimed DDT — on wildlife and ultimately on man. These were unknown, unseen dangers. How many others were lying in wait?

In an October 1983 article, Paul Brooks of the *Boston Globe* wrote:

"Not only did *Silent Spring* awaken

Growing With The Movement

With individuals as with groups, the commitment to environmental activism may remain unshaken — although the form it takes changes.

During the 1960s, Susie Washington (complete with flowers in her hair) was working as a community organizer in San Francisco's Haight-Ashbury district, and actively protesting the Vietnam war.

Later, she helped run summer camps for inner city children on a nature preserve. Most of the children, she recalls, had never left their immediate neighborhood. Where they lived, "The only dirt was filth and the only wildlife was rats.

"I realized that if these people were ever going to have a sense of being in touch with this planet, they had to have experiences to do it."

Later still, (and with two children of her own) she was "living out a back-to-the-land fantasy" on an subsistence farm in British Columbia.

"I found that I couldn't do it by myself with two small kids . . . I was trained — my heart lay with the environmental movement in the larger sense. I needed to go back to work with people.

In 1979, she started work for Alberta Environment, as environmental education co-ordinator — on the assumption that the coming generation needs environmental information to help it avoid the mistakes of its forefathers.

Then in 1982 she made another major shift. Concerned about time running out, concerned about the need to heighten environmental awareness in today's decision-makers, as well as tomorrow's, she became program manager of The Banff Centre school of management's resource management programs.

Brian Plesuk's career has undergone a similar shift.

He was a student activist (complete with beads) during the late Sixties and early Seventies. He then worked in community recreation — with a group of Edmonton inner city communities who were "more interested in social action . . . than in the recreation ser-



SUSAN BRUN

Susie Washington

vices I had been sent in to peddle."

In 1976, Plesuk joined Alberta Environment as a public participation co-ordinator. He was deeply involved in helping community groups in Cold Lake prepare for the public hearing on Esso Resources' proposed \$13 billion heavy oil project in the area.

In 1980, he joined Gulf Canada Resources as a socio-economic planner.

"It appeared a travesty," he recalls.

"Radical community advocate, fighter of megadevelopment, sucked up by industry — and worse, by a multi-national."

But, says Plesuk, training in community development teaches you to "represent the spirit of community and the public interest." And he felt he could do that more effectively within industry.

"I saw it as a chance, an opportunity. I knew that political-bureaucratic realities couldn't really *force* industry to treat communities with the respect they deserved and often demanded.

"I believed that a major project could be planned and developed, with the integrity of the host community and a partnership with government as cornerstones of the development.

"By establishing a precedent, I felt other progressive companies would follow suit —

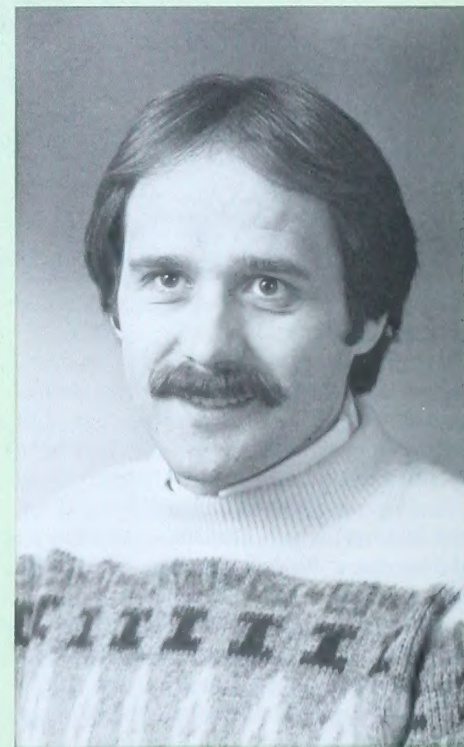
not because they had to but because it was the way to do business."

Washington also believes she is more effective where she is.

"I look at myself with flowers in my hair and I think about a lot of the experiences I had," says Washington.

"Now I'm in a business suit, meeting with oil company presidents. And it makes perfect sense that I am dealing with them . . .

"There are plenty of people who dropped out or copped out. But there are plenty of us who still have that same sense of commitment. I think in another 20 years we will have an impact . . .



Brian Plesuk

"We're upwardly mobile, in middle management, and headed for the boardrooms. And I would also say we haven't changed our minds."

— Gillian Sniatynski



MARTHA JONES

North Americans to the dangers of DDT and other chemicals with which we were poisoning our Earth. It reminded us that in our over-organized and over-mechanized age, individual initiative and courage still count and that change can still be brought about, not through incitement to war or violent revolution, but rather by altering the direction of our thinking about the world we live in."

Brooks believes, as do many other observers, that the publication of *Silent Spring* was a pivotal event in raising the public consciousness about the environment, by making clear "the basic irresponsibility of an industrialized technological society toward the natural world."

"Rachel Carson was very modest about her accomplishment. As she wrote to a close friend . . . 'The beauty of the living world I was trying to save has always been uppermost in my mind — that, and anger at the senseless brutish things that were being done. Now I can believe I have at least helped a little. It would be unrealistic to believe one book could bring a complete change.'"

It may have been unrealistic, but history has proved it true," Brooks wrote.

The uneasiness generated by Carson's revelations was coupled with a growing sense of the interconnectedness of all living things. It was becoming more evident that "the environment" was not some remote wilderness area, but all around us.

One of the earliest global manifestations of this new awareness was the 1972 United Nations Conference on the Human Environment in Stockholm.

"In the 1970s, after Stockholm, there was a growing realization of the basic and inextricable links between what humans do in one part of the world and what they do in another," wrote environmentalist Barbara Ward.

"This interconnectedness was one of the great insights of Stockholm, neatly summed up in the conference slogan 'Only One Earth'. There was a beginning of a sense of shared stewardship for our common planetary home."

Another manifestation of that feeling was the formation of an informal, international, interdisciplinary group called the Club of Rome, to foster understanding of the interdependent components of the global system and to promote new policy initiatives and action.

The first report of the Club of Rome, published in 1972, was "The Limits to Growth." The report considered food, non-renewable resources and pollution absorption as separate factors necessary for the growth and maintenance of population and industry. It concluded that "the short doubling times of many of man's activities, combined with the immense quantities being doubled, will bring us close to the limits of growth of those activities surprisingly soon."

Concerns about population and demands on non-renewable resources were echoed by Americans like Paul Ehrlich, whose book "Population Resources Environment" appeared in 1972. The same issues were treated by Canadian Dr. Milton Freeman in his 1974 book "People Pollution."

In Canada as in other countries, a significant response to the environmental concerns of the Sixties was the establishment of bureaucratic structures to deal with them.

"Institutionalization . . . is the way in which societies demonstrate their recognition of the importance of an issue and their determination to do something about it," writes Dr. Donald Chant in a 1981 issue of the magazine *Alternatives*.

Chant, a former chairman of the Canadian Environmental Advisory Council set up to advise the federal environment minister, goes on to note the establishment of environment departments federally and in every province, and the enactment of comprehensive environmental legislation.

An ambitious attempt by these fledgling federal and provincial bureaucracies to articulate environmental concerns and get public input for solutions was the two-and-a-half-year Man and His Resources project which began in 1972.

Dennis Wighton was one of some 2,400 people from across the country called on to

help with the project. He considers it a highly successful exercise in citizen participation, which resulted — at the time — in a strong grass roots interest in environmental issues.

Another ideology of the Seventies, formulated with the grass roots in mind, was that of the Conserver Society.

The term was coined by Dr. Dixon Thompson, a professor of environmental science in the University of Calgary's faculty of environmental design, during work on a 1973 report of the Science Council of Canada on natural resource policy issues.

"At that time there was no intention of starting a movement, let alone founding a society," writes Thompson in the Fall, 1982, issue of *Alternatives*.

"The Council simply recommended that: 'Canadians as individuals, and their governments, institutions and industries begin the transition from a consumer society preoccupied with resource exploitation to a conserver society engaged in more constructive endeavours.'"

If the conserver society didn't materialize right away, it at least indicated an important philosophical shift. As Chant notes, the scientific and technological focus of environmental concerns in the Sixties had come to be regarded as "dangerously simplistic." During the Seventies there was a growing acknowledgement that environmental issues include "the whole area of human values and ethics, of social wants and needs . . ."

Perhaps the earliest formal recognition, in Canada, of this broadened scope of environmental issues was the 1974-78 Mackenzie Valley pipeline inquiry, established to examine the social, economic and environmental impact of a pipeline proposed by the oil and gas industry to run from the Arctic to the United States.

Justice Thomas Berger, then a justice of the Supreme Court of British Columbia, was commissioner of the inquiry, which was the most exhaustive of its kind ever held in Canada.

Berger found that the pipeline would bring limited economic benefits to compensate for devastating social and environmen-



Edmonton school children stage an anti-pollution demonstration as part of their ecology studies (1970).

STOP members' demonstration against enzymes in detergent 1970 (opposite page).

tal impact — and it would frustrate the goals of native land claims. He recommended a ten-year moratorium on pipeline development in the area. The environmental movement was making an impact on industry too.

Tom Beck, now chairman of the Canadian Environmental Advisory Council, is one of the pioneer environmental advisors in the oil industry. He has been Aquitaine's manager of environmental affairs, and Petro-Canada's director of environmental and social affairs.

"When the environmental movement finally registered in a constructive sense on people in industry, they were quick to respond, as they so often are," he said.

"Certainly they reacted ahead of the legislation in most cases. Suddenly people like myself who really were perhaps in some cases thought a bit odd were sought out and put to good use."

In Alberta, as in the rest of Canada, the Seventies saw the establishment of institutions (like Alberta Environment) to deal with environmental concerns. But at least early in the decade, the province was still more agricultural than industrial, and the environmental movement grew out of an agricultural base.

Frank Belyea, a retired Alberta Environment public participation co-ordinator, mirrors that growth in his own career.

In the early 1960s he had been a district agriculturalist, and later worked in agricultural extension. Later still, he helped administer the federal-provincial Agricultural Rehabilitation Development Act. Working out of Edson, he recalls spending a lot of time with farmers and industry, setting up reclamation programs and buffer zones. Belyea joined Alberta Environment after its establishment in 1972. His work was first called rural development, then community development, then public participation.

According to Brian Plesuk, a senior socioeconomic planner with Gulf Canada Resources, a real awareness of environmental concerns in the province came with industrialization. Through the 1970s, "small-scale

industrial intrusions" gave way to megascale intrusions whose impact on the environment was, in Plesuk's terms, staggering.

Another factor heightening Albertans' awareness of industrial impacts, says Plesuk, is that while early development (of coal and oil) was largely below ground, now it's on the surface for everyone to see.

If late industrialization delayed the development of an active environmental movement in Alberta, Plesuk considers that the political climate has traditionally made any sort of questioning of government action seem to be implicitly anti-government.

But environmental groups did form. Brian Staszewski, a pioneer environmental activist in this province, recalls a variety of



Frank Belyea

them, in the 1960s as well as the 1970s. Among the larger and more active ones were the Alberta Fish and Game Association, the Alberta Wilderness Association and STOP (for Save Tomorrow Oppose Pollution).

Other groups were also active during the Seventies. But, says Staszewski, many of their efforts were unheeded. For example, he recalls efforts by the Alberta Fish and Game Association and other outdoor groups to retain the boundaries of the Willmore Wilderness which failed — three times.

By the end of the 1970s, environmentalism had a presence in Alberta — but its presence was extremely ineffective. It lacked a strong sense of community and a clearly defined leadership.

The Eighties have had both good and bad effects on the environmental movement.

On the good side, the environmentalists of the Sixties have gained a lot of expertise — which has been passed on to the groups they belong to. Dennis Wighton comments on the "maturity and finesse" of the movement now; highly visible, action-oriented strategies which sometimes generated more heat than light have given way to a more compromising, behind-the-scenes approach aimed at influencing decision-makers directly.

And the environmental lobby is now very much better organized. With help from the Canadian Environmental Advisory Council, a national coalition of environmental groups has been formed.

The Alberta component is loosely knit, but, says Staszewski, it's growing, and some strong bonds are forming. A network newsletter keeps everyone in touch. Coalitions within the network form to fight specific issues, and there's a strong informal leadership ready to step in during crises.

Tom Beck agrees with Staszewski's conclusion that the network is very effective.

"There is nothing planned in Canada that the environmental 'mafia' is not plugged in to," he jokes.

The movement now has much greater credibility, nationally and provincially, and government is much more open to consultation. ("Now," says Staszewski, "we meet with the minister. We meet with everyone!")

And there have been many successes. Chant, for example, cites the banning of some particularly harmful pesticides, rigor-

The Pioneers of STOP

Of all the environmental groups in the province, STOP probably had the highest profile — and the best record — during the Seventies.

At its founding meeting in February 1970, it launched a national anti-pollution lobby. Starting out with 500 filing cards, bought for \$2.50, STOP effected the delivery of more than 100,000 signed anti-pollution messages to federal and provincial elected officials.

Another early lobbying strategy was the distribution during the 1971 provincial election campaign of bumper stickers which read "Vote for Pollution, VOTE SOCIAL CREDIT."

STOP was zealous in its search for

incriminating evidence of pollution in industry. Many of its "industrial safaris" — and much of the focus of the group's work in the 1970s — were directed at the tar sands developments around Fort McMurray. STOP members made annual "tours of inspection" by boat along the Athabasca River.

The long campaign for reduction of sulphur dioxide emissions and for adherence to standards by Great Canadian Oil Sands (Suncor) and Syncrude drew considerable support.

In fact, says Linda Duncan, a pioneer member of STOP who is now executive director of the Environmental Law Centre in Edmonton, STOP deserves consid-

erable credit for the eventual (albeit unsuccessful) prosecution of GCOS in 1976.

In the fall, 1982 issue of *Alternatives*, in an article entitled *Eulogy for STOP*, Duncan writes:

"STOP was not appreciated by everyone. Yet without denigrating the efforts of the now more than 60 active environmental groups in Alberta, the demise of this pioneering organization has created a serious void. The strategies and tactics may have been objectionable, but the group undeniably brought environmental issues to the forefront. There will likely never again be a group like it in Alberta."

ous controls of some dangerous pollutants (like PCBs), greater funding for environmental research, preservation of certain parklands and wilderness areas, prohibition of development in some urban areas, development of systems for recycling and conservation, and, finally, some "significant changes in attitudes and perceptions."

But the movement still doesn't really come from the grass roots. Dennis Wighton deeply regrets the fact that the strong citizen participation which developed in the course of the Man and His Resources project was allowed to lapse. Dixon Thompson in his *Alternatives* article quotes an Environment Council of Alberta report which found a high level of environmental concern about environmental matters among Albertans — and a uniform lack of active participation in efforts to resolve problems.

This, in spite of the fact that the problems are becoming more serious all the time.

Barbara Ward noted a slackening off in the momentum generated by the 1972 Stockholm conference. Governments, she wrote, now agree on the problems, and on the solutions — but their actions rarely match their words. Some Western leaders "appear to regard the universe as expendable — as long as their tiny bit of it is not expended."

When it comes to governing of the global commons — "the seas, atmosphere, forests,

rivers and rainfall that sustain human life — local pressures often tend to be stronger than any emerging international constituency."

Dr. John Marsh is chairman of the environmental and resource studies program at Trent University. He perceives within Canada what Ward laments globally — local issues taking precedence.

Though concerns like acid rain *force* us to an international perspective, and though environmental groups across Canada are now working more closely together, regional interests tend to preoccupy us, he says. And "how do you turn regional interest (groups) on to the problems of the Beaufort Sea?"

Marsh also questions whether the more streamlined and sophisticated environmental lobby is really any more effective than the old attention-grabbing movement of the Sixties was.

He notes that the growing peace movement now resorts to civil disobedience and even violence — and that may give the environmental movement a hint of things to come.

"In Europe we see environmental activity much more like what we went through in the 1960s," he says.

"And Greenpeace (the Canadian-based environmental group formed in Vancouver in 1970) never really gave up Sixties tactics."



In the U.S. an environmental group called Earth First! was formed two years ago as a Sixties-style protest against the institutionalization — and respectability — of the big conservation groups. Earth Firsters are known for their fondness for beer; they also like, among other things, to chop down billboards.

But there are also trends in the opposite direction. In West Germany, the Green Party, founded just over three years ago to represent environmental interests, won between five and six per cent of the popular vote in federal elections last March. Brian Plesuk notes that New Zealand's Values Party has changed both the nature and substance of political campaigns by introducing socio-environmental concerns.

Whatever the future shape of the environmental movement in Canada, a decline in its strength and influence seems unlikely.

"As expertise improves, not only within the organization but within bureaucracy and industry, the gravity of the problems becomes more apparent," says Tom Beck.

"I think one of the things that mitigates against any lessening of interest is the fact that we are now facing some of the most serious problems of our time."

Gillian Sniatynski, the former editor of this magazine, is now a freelance writer and editor living in Drayton Valley.

David Spalding

The Movement's Roots

From eccentrics to environmentalists



"During the intense frost my wild ducks clustered together in large masses on the ice; and they remained on it all day in perfect security, as I never allow a gun to be fired within the park wall, over which no foe can ever climb".

Charles Waterton, January 1864.

Charles Waterton, an English squire of the last century, finds a place in every anthology of eccentrics. Strange stories are told of him — sleeping with a block of wood for a pillow, and falling to his death while climbing a tree after birds' eggs. To his contemporaries, he had another eccentricity. Waterton walled round his park, forbade his gamekeepers to kill hawks and crows, and protected and encouraged virtually all species that came. We now see that he created the mod-

ern concept of a nature reserve, over 150 years ago.

Conservation — the wise use of natural resources — is largely a modern concept. The old world has destroyed its natural environments for centuries. Generations of goats demolished the natural vegetation of the Mediterranean; Venice is flooded by excessive runoff from a deforested hinterland. Nineteenth century industry choked its workers with smoke. North America followed the frontier philosophy — use trees, water and game for quick profits, because there was always more further west. Conservation came in a series of small unconnected efforts of practical men — and the visions of dreamers.

Ontario first established a close season

on game as early as 1782. In 1791 an American act was established to protect the already dwindling Heath Hen, which lingered on for another century or so before extinction. The act's title was mistakenly announced as 'to preserve the Heathen' — at the time preservation of either birds or Indians was an equally unlikely idea. By the next century, artist and dreamer George Catlin recommended saving both in "a nation's park, containing man and beast, in all the wild and freshness of their nature's beauty".

Neither public opinion or science were ready to support a conservation movement. But Charles Darwin shocked the civilized world into taking biology seriously, and soon a scientific basis for studying nature in communities was developed, which in 1873 came to be called ecology. Scientific explorers in the American west made the concept of extinction vivid by finding great dinosaur skeletons. They also discovered geysers and hot springs, which in a controversy as hot as the water led to the world's first National Park — Yellowstone — in 1872. A little over a decade later, Canada's advancing 'National Dream' brought a new interest to the Rockies, and the first small park reserve, to become Banff National Park, was established in 1885, as a magnet for international tourism on Canada's new railway.

The railway workers were fed on buffalo, but by the time their work was finished, there were only bones to be carted away for fertilizer. This shocking near extinction fueled the preservation movement — extinction became not just a matter of remote times and place, but could happen to spectacular and abundant species close to home.

The 1880s and '90s saw the development of professional biological management agencies, (the U.S. Biological Service), and citizens' groups interested in protection of nature. (England's Royal Society for the Protection of Birds and the American Audubon Societies). In 1887 Last Mountain Lake Bird Sanctuary — the first in North America, was established in Saskatchewan, and later Ontario's Algonquin Park and Waterton Lakes National Park were formed. Zoos

MARTHA JONES

Gaetz Lake bird sanctuary, established in 1924

and museums began to show urban dwellers the strange life of their own and foreign lands. Advancing literacy and cheap newsprint encouraged the publication of popular natural history books and magazines. At the end of the century, a new kind of story, with an animal as hero, was invented in Canada by Charles D. Roberts and Ernest Thompson Seton, a founder of the Boy Scout movement. Seton's books stressed that since "animals are creatures with wants and feelings differing in degree only from our own, they surely have their rights"; a new idea to many of his readers.

When an Audubon Society bird warden was murdered in Florida by plume hunters, public indignation added many members. Western Canada had a Territorial Natural History Society as early as 1902, which led to the Alberta Natural History Society in 1906. The Alpine Club of Canada was formed in the same year, and brought influential support from abroad. Soon Jasper National Park, and the Buffalo National Park at Wainwright were formed. In 1909 the Canadian Commission of Conservation started its survey of resource problems. Canada was a party to the first international treaties on wildlife, and started the first National Parks Branch in the world. Ministik Bird Sanctuary, the first in Alberta, was established, and a prairie National Park was established at Nemiskam to protect the Pronghorn antelope, which seemed to be going the way of the buffalo.

In the Twenties the first major study of the conservation of Canadian Wildlife was produced by Gordon Hewitt, who compared U.S. and Canadian situations. "The people of the United States now mourn the loss of their wild life and are endeavouring to rescue the remnant from complete extermination . . . A young country enjoys the advantage of being able to profit by the mistakes of older countries".

Canada continued to develop its own reserves, including the Gaetz Lake sanctuary in Red Deer in 1924. A young naturalist, Kerry Wood, became its honorary warden at the age of 14, and went on to become a



leading nature interpreter of the Alberta countrywide, through his articles, books, and broadcasts. Long of uncertain status, the reserve has finally been incorporated into the urban Waskasoo Park.

Citizens' groups came to play an increasingly active role. The Alpine Club had initially been supported by wealthy visitors from the U.S., but its conservation consciousness produced the National Parks Association in 1923, a forerunner of the present National and Provincial Parks Association. Scattered hunting and fishing groups linked up to form the Alberta Fish and Game Association in 1928; early efforts included a sanctuary at Inglewood in Calgary, but the group also was active in encouraging bounty hunting of predators. However, a wider

environmental consciousness was developed by the group in recent decades, and it has become active on many fronts.

In 1930, responsibility for natural resources was transferred to provincial governments. Unfortunately, the depression was just beginning, and there was little money for conservation in the "Dirty Thirties". Historian James Gray chronicles the slow struggle against the threatened dust bowl. "Nothing much was done about it until after 1935 when it became recognized as a truly national emergency. What was done was never dramatic or exciting, unless 50,000 farmers planting crested wheat grass seed on five-acre plots is dramatic".

At the height of the crisis, Alberta opened its first Provincial Park at Aspen Beach, the



Waterton Lakes National Park

Bob Lister, veteran Edmonton bird watcher and writer, here seen with a collection of Alberta specimens from the Provincial Museum.

Alberta Natural History Society was revived, and another dreamer, Grey Owl, published his influential books on the beaver.

The 1940s were not a totally optimistic period. The surviving plains buffalo were evacuated to allow Buffalo Park to become a military testing ground, and after partial success Nemiskam National Park for the antelope was abolished. Yet the Canadian Wildlife Service was established, and in 1948 the Eastern Rockies Conservation Board began to make sense of the conflicting interests in the foothills. Another philosopher, Aldo Leopold, published a vivid work that has become a cornerstone of the modern conservation movement. In *Sand County Almanac*, Leopold called for a 'land ethic', which "enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land". In Edmonton an annual botany foray was started in the Thirties, and the modern Calgary and Edmonton natural history groups were founded at the end of the Forties.

By the 1950s, the many conservation movements were struggling for recognition. Whooping crane nesting grounds were finally discovered within an existing national park — Wood Buffalo. The United Nations attempted to raise standards by developing its first list of national parks and equivalent reserves.

In Alberta, the provincial government established its first wilderness park, the Willmore; a mountainous extension of Jasper National Park. Yet Beaverhill Lake, a major waterfowl staging place east of Edmonton had been subject of extensive research since the 1920s, was still threatened.

Bob Lister, historian of the lake's bird life reports "there was serious talk of using it for a gunnery range for the Royal Canadian Air Force. Even some local biologists condoned the project, at least for winter use, but the late chief of the Canadian Wildlife Service vehemently opposed the scheme", and it was eventually called off.

Not until the Sixties did individual conservation efforts begin to be seen as part of a whole philosophy. In the face of even more



serious threats to land, to wildlife, and man himself, common cause came to naturalist, hunter, environmentalist, government and industry. Man and nature were at last seen as part of a complex interlocking whole, subject to serious problems, only to be solved by combined efforts of science and citizen, government and industry.

Our achievements are built on the victories and failures of the pioneers and dreamers, like that Squire Waterton who eccentrically protected his ducks. Even before

Waterton's death in 1865, he had found an admirer in Thomas Blakiston, ornithologist with the Palliser expedition. Waterton's name thus fittingly came to be immortalized in the Waterton Lakes, now one of Canada's most beautiful national parks.

David Spalding, as well as being a freelance writer, has had extensive experience in the conservation movement. Senior editor of *A Nature Guide to Alberta*, he was Head Curator of Natural History of the Provincial Museum for 15 years, and has been president of the Federation of Alberta Naturalists and vice-president of the Canadian Nature Federation.

Jim Wilson

The Aberfan disaster, in which 144 people were killed when a slag tip collapsed

The Economics of Ecology

Environmentalism hanging in in hard times



The country's economy may have faltered a bit in the past couple of years, but it's just barely possible that the unsung success and survival story has been the environmental movement.

"The (corporate) environmental movement appears to be in good shape despite the economic circumstances surrounding it," says Elizabeth Wilman, an adjunct associate professor and lecturer in environmental economics at the University of Calgary. "I'm sure there have been some cutbacks, but I'm

equally certain that if you look closely it will be obvious that the loss of environmental department strength corresponds to the loss of megaprojects during the last few years — there's simply nothing to keep the larger departments active anymore."

And Max Wopnford, manager of environmental, community and safety affairs for Shell Canada Resources goes one step further: "I really don't see any corporate environmental pull-back, in our company or any other. In fact it might almost be the opposite — by and large, we're still here. Other departments haven't fared that well."

There certainly is little or no growth in such departments he admits, "but it's because there are no projects, not because the companies are unwilling to support activities that don't directly add to their income."

That situation is probably fortunate, because the alternative, deliberate environ-

mental cutbacks or dismantling of the corporate environmental departments, could lead to serious future problems.

In the extremely large scale there have already been some environmental casualties, such as the lessening or delay of automobile fuel emission standards and a reduction in concern over high rates of fuel consumption. But by and large the protective momentum developed in recent years by the environmental movement still appears to be largely intact, and the majority of concerns focus on finding less expensive ways to maintain the environmental status quo rather than on rekindling environmental interest.

"The real question we should ask is, 'Can we afford *not* to continue spending money on environmental safeguards,'" says Tom Beck, chairman of the Canadian Environmental Advisory Council. "And I'm quite convinced that not only can we truly afford

to have a significant degree of environmental concern despite our economic constraints, but also that it would cost us a great deal of money not to be concerned, or to lessen our concern today."

Beck points as an example to the tragic coal tip collapse in Aberfan, Wales, a few years ago when 144 people were killed. The source of the problem was quite simply that a heavy downpour of rain caused an ancient slag tip to pour into the village. "And if the proper disposal of mine tailings had been built from the start into the mining operation and its budget, the slide couldn't have occurred and those people wouldn't have been killed," he says. "Doing that sort of thing properly has nothing whatsoever to do with a country's economy."

Elizabeth Wilman adds another level of concern. "It doesn't bother me too much if companies and government make decisions concerning a decrease in regulatory control for a particular project," she says, "so long as it's clear that those decisions are made keeping in mind all of the costs implied—not just the cost of maintaining environmental protection. But I'm worried that we won't have a sufficiently accurate measure of the environmental costs of such a project and that they'll go ahead with it anyhow without knowing the magnitude of its effects."

"Particularly in the north, where a lot of today's industrial activity is taking place, this could be a major problem because evaluation is so difficult to start with and we know so little. And we might find out 15 or 20 years after the project is allowed to start that we've completely ruined something we'd really like to have had intact."

And Adrian Kwaczek, an economist with the Energy Resources Conservation Board, agrees. "One of the difficulties with putting things like environmental controls off for awhile, for any reason, is that they generally never get back on the table for reconsideration."

Certainly, the corporate attitude isn't entirely altruistic. The same forces that would keep a company from going *beyond* the regulations are also keeping them from fal-



Elizabeth Wilman

ling *below* what their peers are doing environmentally. "Now that many industries at least to a degree built this sort of cost into their operations, even if sometimes under duress, I think it would be at their peril to back off for short-term economic reasons," Beck says. "They would be running the risk of provoking even stiffer regulations—and of finding themselves in enormous problems with competitors who were still observing the rules."

Beck is supported strongly by Shell's Wopnford, who believes that a project designed according to environmentally sound principles is stronger in other ways as well. "I doubt that in most cases the (environmental protection) costs are really a critical factor," he says. "Good management practices require that you do good housekeeping, and good housekeeping requires that you do things in an environmentally sensitive fashion."

Ron Findlay, environmental co-ordinator at Amoco Canada, says he firmly believes most industries have retained their environmental concern and for the most part, "their environmental policies and departments are in place now. They're sort of institutionalized, and it's not easy to downgrade an institution. The environment departments have been very active in the past, they're still

active and I don't think anyone is foolish enough to believe that they won't be pressed into heavy service again in the future. Environmental concerns and regulations, and environmental responsibility, are simply not going to go away."

He agrees with Wopnford that a properly planned project is simply good economic common sense. "It's money well spent," he says. "I think anyone would realize that for instance you can dike an oil facility for practically nothing while it's in the construction stage. But if you don't do it then, and there's an oil spill, it's going to cost you an arm and a leg to clean it up—and then you'll also have to spend a lot more money to put in that dike anyhow."

Environmental expenditures even today, he says, are "many orders of magnitude larger" than they were in the 1970s and they're continuing to grow. "There's obviously a limit, but we haven't reached it yet by any stretch of the imagination."

Be it simple economic common sense or sound corporate public relations, this corporate determination to retain environment departments in times of adversity could actually become a concern in a somewhat unexpected fashion for regulatory and enforcement agencies. And the source of the concern may provide insight into at least one reason such non-income-producing environmental departments have not been abandoned.

"It appears to be quite true that industries are indeed *not* cutting back on their environmental capabilities," says Tom Beck. "What's starting to happen now is that the people who are responsible for enforcement are still very effective at traditional enforcement—they're hell on wheels against anyone who might do the environmental equivalent of poaching an elk. But I don't see the same type of vigorous enforcement in all areas of environmental impact."

"It's coming to a situation where as competent as the government people certainly are, and I do think they are, they don't have the collective competence to handle the more complex cases, given that they're up against a very sophisticated and well-financed cor-

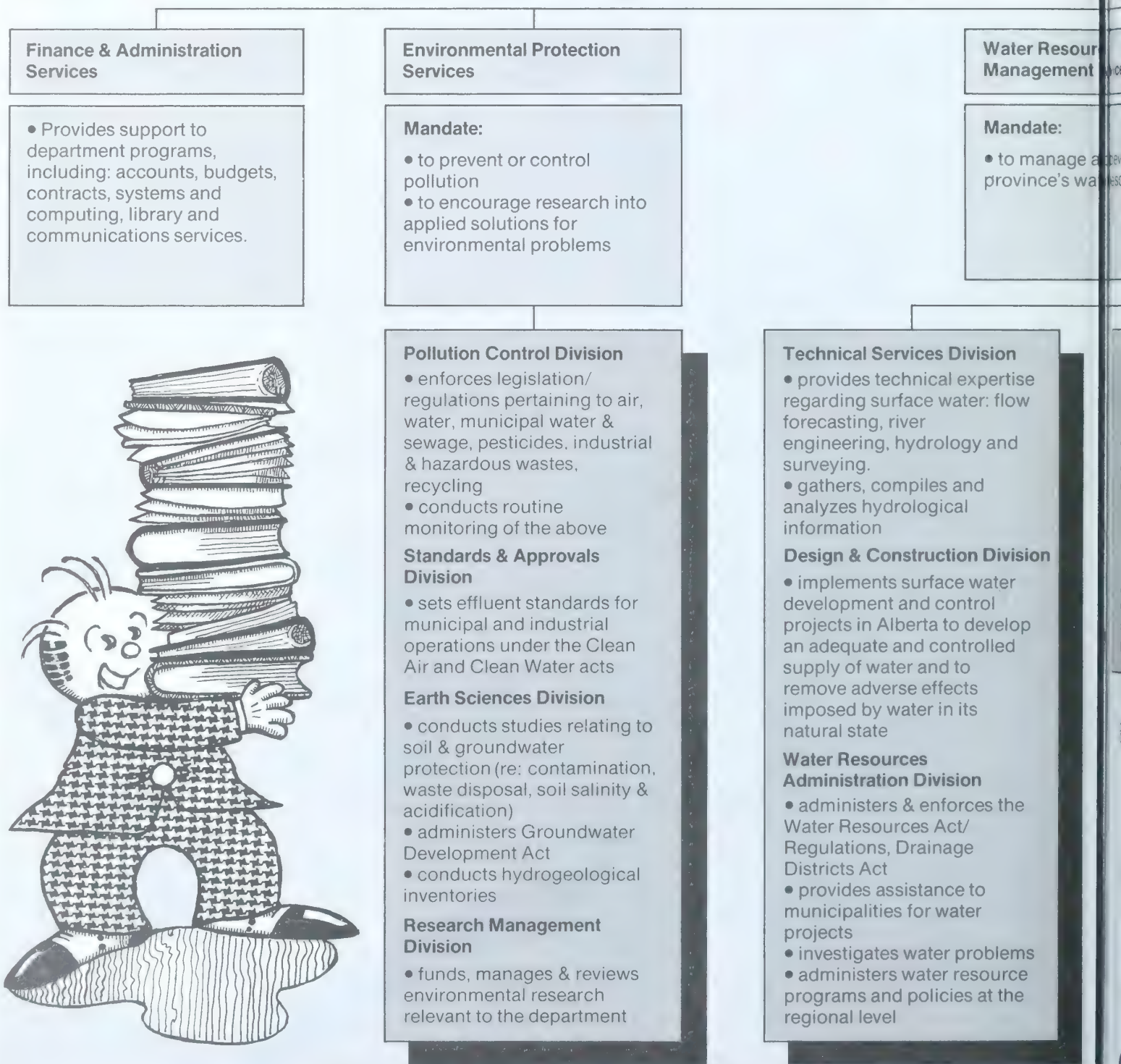
SUSAN BRUN



A pull-out guide
for your bulletin
board, to help you
find your way
around Alberta
Environment
services.

Organization Chart of Alberta Environment

Highlighting Areas Responsible
for Environmental Management,
Protection and Research



Alberta Environment Research Trust

General Information Number
427-2739

24 Hour Emergency Number
1-800-222-6514
(If calling from a pay phone,
please go through the
operator.)

Environmental Evaluation Services

Mandate:

- to integrate land resource conservation, reclamation & environmental management

Alberta Environmental Centre

Mandate:

- to provide research, technical development and analytical and diagnostic services for the investigation and solution of environmental problems

Planning Division

- prepares river basin plans
- prepares plans for specific water management projects
- prepares benefit-cost analyses and EIAs of water management projects

Operation & Maintenance Division

- operation & maintenance of provincially owned water control structures & projects, including irrigation headworks systems

Land Reclamation Division

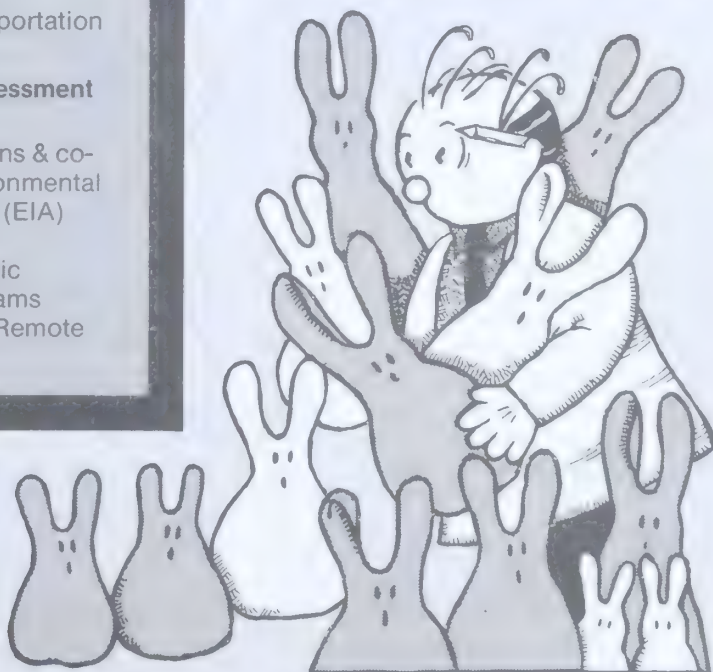
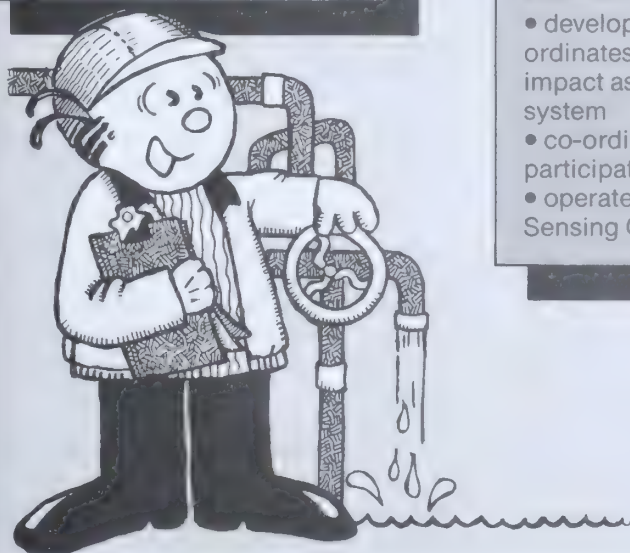
- administers Land Surface Conservation & Reclamation Act/Regulations
- carries out other activities & projects to enforce & improve practice & standard of reclamation & environmental planning
- manages restricted development areas
- implements transportation & utility corridors

Environmental Assessment Division

- develops, maintains & co-ordinates the environmental impact assessment (EIA) system
- co-ordinates public participation programs
- operates Alberta Remote Sensing Centre

Work is done in the following areas:

Animal Services Wing
Plant Services Wing
Chemical Services Wing
Environmental Technology Wing
Common Services Wing



porate team. Today's companies have generally acquired an enormous amount of environmental expertise — it's required of them, and it's become their conscientious corporate policy in most cases to hire really competent people. And generally, they put that expertise to environmentally productive use.

"But that expertise can also be used by the companies to defend themselves if it becomes necessary. What I'm saying is that I don't see any slackening of industrial willingness to fund and retain their environmental departments these days. I also don't see any cutbacks on the government side. But some government agencies are being hardpressed to match that corporate expertise because the enormous amount of corporate funding has created a sort of environmental brain drain from government to industry."

There has been no really damaging effect yet, he says, "but government departments in all areas and jurisdictions could more often take their cues from what's going on in industry. Most industrial concerns are already planning for the next wave of activity — they're using this forced slowdown to prepare for the future. I'd like to think that environmental people in government would be pro-active instead of re-active in that process."

There's also another potential near-term problem some environmental workers are identifying. "I think it's becoming more difficult to get people's attention in what might be called an 'anti-development' stance on environmental issues," says Max Wopnford.

He says there is an increasing public view that even though a project may produce an environmental modification, it should still be allowed to go ahead because that modification isn't seen as serious enough to stop it — particularly if jobs are on the line.

But that attitude isn't necessarily permanent. Elizabeth Wilman agrees there may be an appearance of public attitude change. "It may look as though people have pushed aside their environmental concerns because of an overwhelming economic weakness,



Tom Beck

but I don't think that's really true," she says. "It's just that the more immediate problems have come to the forefront in their thinking. When things improve, the environmental concerns will come back to the foreground — they certainly won't have been forgotten."

And Adrian Kwaczek observes that people will obviously be more willing to push for environmental safeguards when times are good than when they're bad. "I'm not talking about the Greenpeace level of environmentalist of course, but about the common person who is more concerned about jobs than niceties.

"But I hope the majority of us, and the majority of companies realize that environmentalism is not a concern that will go away. Whatever we let happen today will have to be reconsidered at some time in the future, when its effects are really starting to be noticeable. And adding pollution controls in the future will almost certainly be more expensive for both the company involved and the government and public enforcing it than it would be if it's done today," she says.

"Fortunately it appears that companies are not considering curtailing or fighting pollution controls in most cases. If they were, and if we let that sort of thing go ahead, we might find ourselves coming to the point where we've permitted sufficient

downgrading of the environment that the damage can't be repaired.

Kwaczek downplays another environmental issue: the perception some people have that perhaps we're losing out to other countries in the international marketplace because we require expensive environmental controls. "I'm sure we do suffer internationally in terms of trade because in some cases our prices are much higher than those of other countries," she says. "But I don't think we can really change that balance much by cutting back on some of our environmental protection costs — that sort of manufacturing expense is only one of a multitude of reasons our prices are sometimes too high."

Also, as Tom Beck points out, reducing environmental requirements in order to attempt to gain a better place in international markets would only be at whatever local environmental expense the safeguards were established to avoid in the first place. Someday, either economically or ecologically, that price would still have to be paid.

So far, there appears to be little deterioration of corporate compliance with environmental regulations. Dave McCoy, an environmental scientist with Canterra Energy Ltd., says he has seen no evidence to date to indicate that companies are seeking less-intense interpretation of existing practices, or that the provincial government is backing off in any way. "In fact the evidence is to the contrary," he says. "Every application we've submitted for a licence renewal has had new requirements attached to it."

There also appears to be no cutback in either corporate or government financial support to most major environmental research activities, although the economic climate does not lend itself to grant increases.

"The recession hasn't really affected us at all, and it doesn't appear to have had any serious affect on any ongoing programs," says Linda Jones, administrative assistant at the University of Calgary's Kananaskis Centre for Environmental Research. "We've had no cutback in funding from either government or industry, and in fact we've even

Teacher Cynthia Carlisle of Calgary's Outdoor School which has suffered from severe financial cutbacks.



been able to diversify in our research."

But in many cases the operative qualification seems to be "so far". No one reports cases of significant *increases* in environmental funding, and if the current economic upturn slips and the bad times return, things could still change for the worse. Certainly, says Max Wopnford, today's economic climate would make people think much more carefully about requiring extraction of the last per cent of pollution from a smokestack or of applying extensive controls to a project which would cause only marginal environmental degradation. And there will continue to be specific events in which a particular company decides to fight either a regula-

tion or a government agency order to clean up its operation.

A few weak points are beginning to appear in the environmental armour. The Calgary public school district, the largest educational jurisdiction in Alberta, as part of larger cutbacks, last year cut funding for its outdoor and environmental education school — roughly a \$500,000 budget item. Environmental education activities are continuing in the district, and the school is still operating with an increase in parental contributions. But local environment educators are concerned both that the cutbacks could expand in Calgary and spread to other jurisdictions, and that the teachers who have

become practiced in managing students on environmental outings will leave in the next few years, and their replacements will have neither their field trip training nor the opportunity to acquire it.

In B.C., where the logging industry is considered the make-or-break sector of the provincial economy, the government is relaxing some of its logging standards in an attempt to beef up forestry income. Critics fear that reduction of the logging rules, particularly in cases in which the industry will be permitted to leave low-value timber to rot on the forest floor instead of dragging it out, as has been required in the past, will threaten the industry's future timber regrowth and lead to further degradation of resource management regulations in B.C.

Industry spokesmen have insisted that their companies can't afford both good forest management practices and the new plant and equipment facilities they require to regain their competitive position on world markets — and, as Adrian Kwaczek fears, they are saying they doubt the industry will ever return to some of the environmental protection practices required in the past few years.

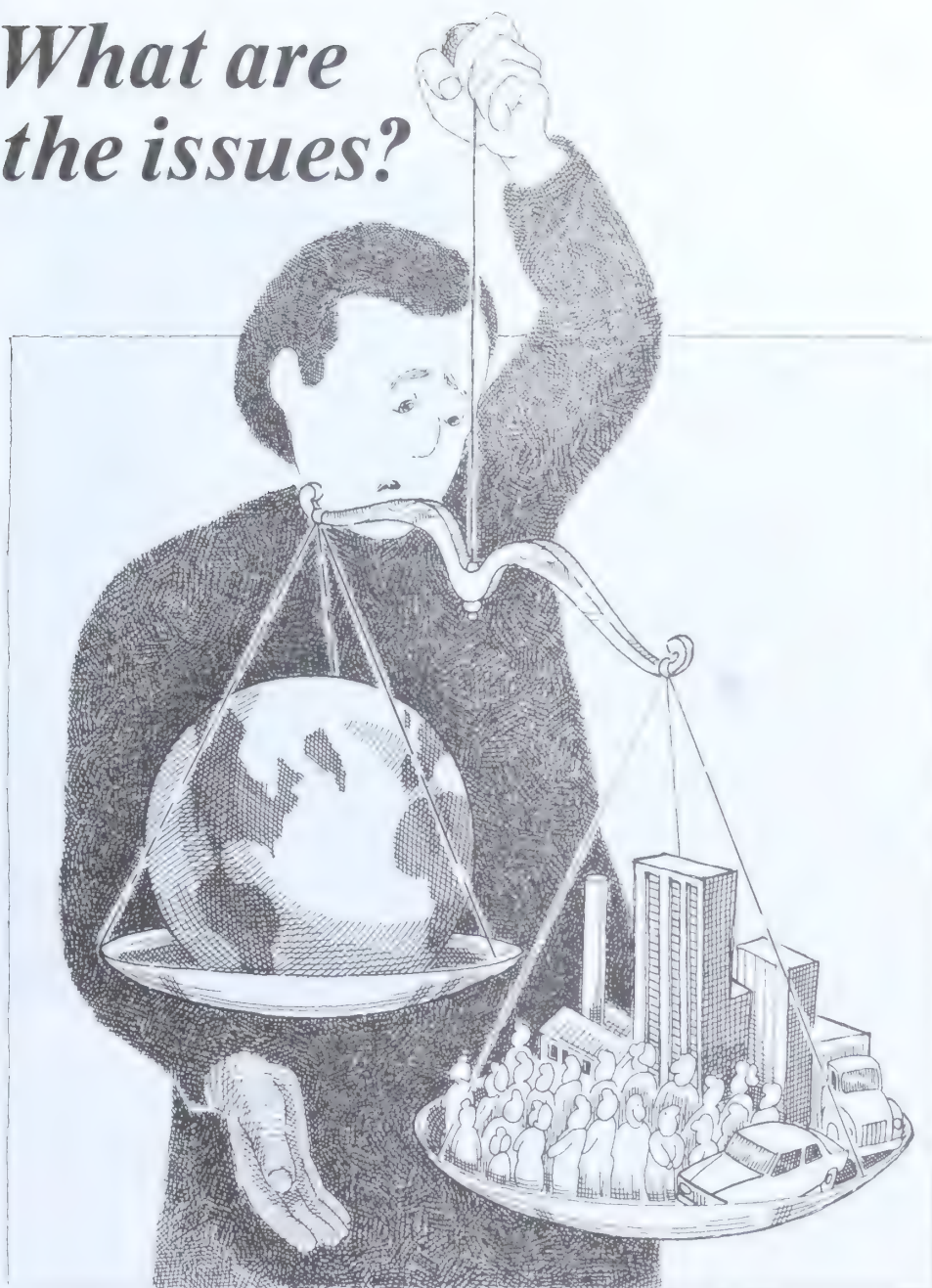
In Alberta there appears to be no related problem, but that may be due to the lack of oil and gas exploration in recent times. There are few proposals currently going to government regulatory agencies, and as Dave McCoy and others point out, this generally results in speedier — though not necessarily easier — approvals.

But, for the present, environmentalism seems to be holding its own. It appears most of the corporate world is concentrating its strategic planning efforts on an anticipated future in which a cheerful economy provides good profits from a multitude of investments — and a country in which people, politicians and governments have both the time and the economic confidence to continue requiring industry to operate in an environmentally sound manner.

Jim Wilson, marketing co-ordinator for the Calgary engineering firm of Reid Crowther and Partners Ltd., is a freelance journalist

Liz Osof

What are the issues?



We polled a sampling of Alberta's most active environmentalists to identify what they, and the groups they represent, think are the most important environmental issues we face as we go into the Eighties.

Try this simple little test. Take a piece of paper. Under the heading "Water" list all the major environmental issues that relate to this one, tiny word. Include issues of global, national, provincial and local concern.

After several pages of foolscap you will start to understand the enormity of asking the question "what are the major environmental issues for the Eighties?"

The myriad of answers from people active in environmental public interest groups across the province can be broken into three general categories: specific threats to our biosphere; organizational issues facing public interest groups; and environmental law.

Of course these categories do not stand alone, but interconnect around the central issue of "maintaining a quality of life for people to enjoy, a reasonable environment for people to live in," as Dianne Pachal, executive director of the Alberta Wilderness Association (AWA) puts it.

One issue does supercede all others on just about everybody's list. While not strictly an environmental issue, it is the biggest envi-

ronmental issue of all. Nuclear war, the most catastrophic threat to the biosphere.

"There's not much use in fighting to save the whales if there's nothing left to save them for," says Annette Ruitenbeek, a Greenpeace representative who is presently coordinating the formation of a Green Party in Alberta, to be based on the West German model, formed to oppose nuclear arms build-up.

By forming a political party, she says disarmament activists hope to improve their position by gaining previously-inaccessible information.

Access to information is a major issue many environment groups feel needs to be addressed.

"As groups have become more effective, it has become harder and harder to get information," says Pachal.

The problem in Alberta, says Linda Duncan, a lawyer with the Environmental Law Centre in Edmonton, is that there is no absolute right to information and gathering information privately can be very expensive.

"What makes me really angry is in the cases where people have complained that environmental standards are not being enforced, endangering their health, they have been told that's the price they have to pay for progress.

"If they have to pay the price, they have a right to choose if the price is going to be too high. Part of that right is the right to the information on which they can base their decision. Otherwise the government is simply dictating how safe their environment will be."

The involvement of environment groups in the disarmament movement underlines another major theme for the Eighties — the importance of networking.

The Eighties will be a time of further specialization in environment groups, Pachal says.

"The environment is a very complex thing. The only way to deal with environment problems is to break them down into smaller, more specialized areas of concern.

"We need groups to concern themselves



SUSAN BRUN

Annette Ruitenbeck

with a particular aspect of an environmental issue, and then to share their information and form coalitions around major issues."

The nuclear disarmament issue is a good example of how this system can work, she says. "If the peace movement identifies what action needs to be taken, we can get involved. But we are not informed enough to take the action on our own."

Brian Staszewski, co-ordinator of the Environmental Resource Centre, a director of Friends of the Earth (Canada) and an organizer for the Alberta Environmental Network, sees networking as the major organizational thrust for the Eighties.

"Five or ten years ago the idea was getting people into the streets. Public interest groups have learned, and are still learning new ways of dealing with the issues."

Coalitions, formal and informal, are forming at all levels, he says, and these coalitions exemplify a new level of sophistication within the environmental movement.

Rob Macintosh, co-ordinator for the Al-

berta Environmental Coalition, also identifies networking as the route to finding and implementing many of the solutions to environmental problems.

"Networking between grassroots public interest groups can lead to success where governments have had no success," he says.

Many of the issues concerning risks to the global environment will be the same in the Eighties as in the Seventies, according to many Alberta environmentalists. Still high on the list are water and air quality, land use, hazardous waste disposal, garbage disposal, energy production, depletion of the world's forests and agricultural land and environmental and occupational health.

Each of these general categories covers hundreds, even thousands of specific issues; and while the overall categories may stay the same, specific issues will change, be rethought or disappear in the Eighties.

Take the acid rain example given by Martha Kostuch, a director of the Environmental Law Centre and a member of the Prairie Acid Rain Steering Committee.

"In Alberta, the emphasis on sour gas production as the primary offender will decrease over the next few years as better controls are in place. However, concern will grow over the development of the tar sands plants and coal-fired industry," she says.

Macintosh points to another example: "We'll have to change our thinking on some issues. For instance, we will have to start considering our forests and topsoil as non-renewable resources. We need to redefine non-renewable as anything that can't be replaced as quickly as it is used. We can find new forms of energy, but we can't make forests grow any faster."

The major environmental problems facing Alberta are a little more specific. A key issue is water — both quality and supply. Energy development and land use are next in line.

"We're a province with a limited water supply. We can't afford to continue with our extravagant use of water for all sorts of absurd and wasteful uses," says Macintosh.

The Alberta Fish and Game Association



BILL MCKEOWN

Linda Duncan

has identified water quality as one of its major concerns, says Elmer Kure, director of environmental public relations for the organization.

"If we're going to run sewage into our rivers, we have to find a way to go beyond second stage treatment. We have to get the nutrients out of the water. We know what the options are, but we need more leadership from the provincial government in pushing these options," he says.

The possibility of inter-basin transfer of water (the moving of water from the northern part of the province to the south) also has many environmental leaders concerned.

Many people question the feasibility of the scheme and feel its benefits don't outweigh the environmental risks.

The problem is rooted in history, says Dorothy Dickson, a long-time environmental educator and winner of the 1980 Alberta Achievement Award for environmental education.

"People were allowed to start growing



Brian Staszewski

grain in a climate totally unsuited for it. You can't now say 'Stop growing grain and start growing tomatoes in greenhouses,' she says.

If, as many experts believe, air pollution will lead to a global warming trend, the growing belt in Alberta would be pushed even further north, she points out.

"I'm extremely skeptical of any move to transfer water from the north to south. It just wouldn't be worth the risk environmentally," she says.

Instead, the planning focus needs to be shifted toward making better use of the water available, according to many environmentalists.

"For instance, water usage in Calgary alone could be cut by 25 per cent simply by having people install one-gallon flush toilets instead of five-gallon," says Rob Macintosh.

Land use is the second big issue for Albertans in the Eighties, with preservation of the natural environment, energy resource development, agricultural lands and urban development as the major issues.

Many environmental groups are concerned the current economic slump will cause government to abandon some of the present environmental controls in an attempt to stimulate the economy. The result could be destruction of previously protected areas.

"One of the biggest challenges for the Eighties will be maintaining our natural environment and instilling in people a recognition of the economic, social and scientific benefits of maintaining our wilderness areas," says Dianne Pachal of the AWA.

During times of high unemployment, governments look to megaprojects to stimulate the economy. Conservation and environmental concerns become secondary, she says. "People think conservation costs jobs."

The Alberta Fish and Game Association has also been active in the area of land use policy. The organization is very concerned about the selling of Crown land in fringe areas for agriculture.

"The province needs tighter control on how it disposes of its land in marginal areas with more of an eye to how suitable the land actually is for agriculture," says Elmer Kure.

The association is also concerned about the grazing of domestic stock on critical wildlife land, he says.

"Something's got to give. You can't have domestic stock grazing on critical wildlife land and still hope to increase the wildlife population," he says.

Preservation of agricultural land is a critical issue which needs to be addressed in the Eighties, says George Friesen, chairman of the Unifarm land use committee and one of the founders of PAL — Preservation of Agricultural Land.

Some of the best agricultural land in the province is being destroyed by urban and industrial growth, he says.

"Land was never meant to give up its full value in one generation, or even ten generations. It is one of the best resources we have to leave future generations," he says.

"What some of us are suggesting is that surface rights, that is, the right to make the land productive, should be separated from development rights, that is, the right to des-



Dorothy Dickson

trophy the land."

One issue which has gained in stature over the last ten years, and which is likely to continue to grow during the Eighties, is the use of the courts to settle environmental concerns and disputes.

However, litigation is only one aspect of the much broader field of environmental law. In Alberta the major issues in environmental law concern the enforcement of existing standards and laws, and access to information, says Duncan.

"Most of the calls we have to the Environmental Law Centre are from people who are concerned about a specific problem, such as the amount of sewage being dumped into their water source. They want to know what rights they have in getting the problem cleaned up, and what routes are open to them," she says.

The majority of problems can be dealt with without ever having to go to court. People simply need to know what channels to follow to have existing laws enforced, she

The Alberta Fish and Game Association is concerned about the use of Crown land for grazing, thus depleting wildlife habitat.



says. Court action becomes necessary only when those attempts fail.

However, environmental groups have evolved to a level of sophistication so they are capable of challenging very subtle points of law. A case in point, says Duncan, is the Alberta Fish and Game Association and Federation of Alberta Naturalists' current court challenge of the Energy Resources Conservation Board's narrowing of the definition of "local intervener."

Anyone presenting a brief at an ERCB hearing is considered an "intervener". Designated "local interveners" have the cost of their presentation paid for by the company making the development application.

The key to avoiding costly and lengthy court challenges is to involve all concerned parties in the earliest stages of planning, instead of after-the-fact, says Duncan.

"Even industry acknowledges the value of this approach. Often they lay out a lot of development capital only to discover a tremendous amount of opposition once the information is made public," she says.

One theme lies at the heart of every environmental issue — the need for mankind to assume full responsibility for the care and feeding of this planet, for the good of all its inhabitants.

"Our biggest challenge is still the education of people and a change of attitude in people from consuming to conserving," says Dickson.

The path for the Eighties is towards an "environmentally appropriate and economically sustainable development plan," says Macintosh.

"This is a concept based on the ideal of the conserver society put forth by the Science

Council of Canada," he says.

The ideal conserver society, as described by the Science Council, is a society which seeks to create a sustainable and equitable economy by adopting a number of principles for production and consumption. These principles include: a concern for the future; economy of design; diversity, flexibility and responsibility; recognition of total costs; and respect for the regenerative capacity of the biosphere.

For Martha Kostuch this means: "The Eighties will have to see a shift to conservation. It will mean a change in lifestyle. Not necessarily back-to-the earth. Just more conscious about all our actions."

Liz Oscroft is an Edmonton freelance writer and a former journalist and advertising copywriter.

Sharon Adams

Students at Edmonton's Bennett Environmental Education Centre.

Part of the System

The institutionalization of environmental concerns



BILLY MCKEOWN

Throughout human history germination of new ideas has been a slow process. Universal public education, health care insurance and welfare were all once considered revolutionary or socially expensive ideals. But once the time is ripe, the ideas became part of the very fabric of life.

So it was with the environmental movement. Born in protest, environmental concerns now are "institutionalized" — incorporated into the policies and programs of many modern institutions. They are now part of the system.

Tom Beck, chairman of the Canadian Environmental Advisory Council and formerly head of the environment departments of Aquitaine and Petro-Canada, says this gradual institutionalization guarantees environmental protectionism, even during a

recession.

"Environmental awareness and concern took two decades to build up; it's not going to diminish overnight. The sophistication (of industry and environmental groups) is keeping interest at a fairly high level."

But Dr. Frank Tester, a research associate with the Arctic Institute of North America, believes institutionalization of environmental concerns is dangerous — lulling the public into putting faith in inadequate protection.

"In the Sixties there was an outflowing of social criticism. Throughout the Seventies vested interests realized they'd better get in there or they'd be overwhelmed," he says. The result is that "the corporate consciousness became synonymous with public consciousness." (In a phrase, he says the movement was bought out.)

"The institutions we relied upon, universities and secondary schools, are no longer in a position" to be environmental watchdogs because they were co-opted by vested interests, he charges. "Increasingly, universities are branch plants of (large corporations) which provide the research funds and sit on the board of governors."

To check the truth of this, he says, ask the question: "Did they do it, or did they sweep things under the rug? I really believe very little was done. When the economy is buoyant, governments will impose regulation and restrictions. When times are tough and unemployment reaches 12 to 13 per cent, the social value of environmentalism drops dramatically" and corporations argue environmental amelioration threatens economic viability — and jobs.

Beck disagrees. "Although it's time to



Alistair Crerar

reassess, there has been a strengthening of the movement." He said companies would risk backlash resulting in more stringent legislation. "What people fail to realize is companies aren't headless, mindless entities. Environmentalism isn't the exclusive interest of people in the Alberta Wilderness Association or Sierra Club. That makes it easier to continue with the level of concern, no matter what temporary set-backs there may be."

Tester believes public participation in decisions is not guaranteed by institutionalization. "I'm much more interested in participatory democracy. If people are consulted and given a voice, but (that voice) is never reflected in legislation, apathy sets in. Nobody listens, and things don't change."

But Alistair Crerar, Environment Council of Alberta chairman, counsels patience. Though criticized by environmentalists as weaker than its predecessor, the Environment Conservation Authority has delivered public opinion to the political decision-makers.

The old ECA had more autonomy than the present body, which requires permission from the provincial Cabinet before undertaking public hearings on environmental topics.

One criticism of the ECA is that government does not have to heed its resolutions, and the effort and expense of its public hearings serves no more purpose than a placebo. "Our batting average varies. We had something like 90 per cent of our recommendations from the forestry hearings adopted, but I don't think they accepted any recommendations for water management. We do have an impact, more on technical matters that can be effected without much political foofaraw, but not so much when we come up against political factors."

But patience may pay. "A solution may be proposed when the politics are against adoption, but different circumstances may bring the idea back. If it's a realistic proposal, when the realities begin to bite it will be taken up again."

For instance, one recommendation from

the water resources hearing was a fee for water usage. It was rejected, but "price reduces consumption. Now there are problems in water supply. More people, more use; as times get tougher, people realize we're giving away something for nothing."

Despite disagreement on its merits, there can be no doubt the environmental concern and activism of the Sixties has indeed been absorbed by the institutions of society. The process began with development of Alberta Environment.

James D. Henderson, the first minister of environment and now a consulting engineer, says formation of the department was the first step in a gradual process of maturation of environmental attitudes at all strata of society.

"In my political days, (environmental protest) was focused around the university. It started raising issues which were picked up by the environmental movement and the news media." But today no such spark is needed. "Protesters are now residents (of an area affected by development)." He also notices environmental concern where none existed decades ago. "I'm amazed at the things they do in industry now, of their own accord, where 10 to 15 years ago if anybody in a company had suggested doing it, they would have been committed to a mental institution."

Formation of corporate environmental departments is another example of maturation. These companies, he says, have "a receptive attitude towards environmentalism, otherwise (environmentalists) wouldn't work there very long."

"In the Fifties and Sixties," says Henderson, "environmental concern didn't exist. With the growth in industry, especially oil and gas, it evolved and grew." Air quality was the first environmental issue in the province, spurred by development of export markets for natural gas, and an increase in emissions of sulphur dioxide.

Until the late Sixties, says Henderson, amelioration of environmental pollution "was considered an economic disincentive to industry." Government anti-pollution measures were "low profile" so protests grew. He says this was "the government's own fault because it had a policy of not publicizing."

There was "an internal machine, but vested interests inside government at the bureaucratic and political level complicated getting things done." Meanwhile, public protest was growing over oil and gas industry air pollution, the petrochemical industry's effect on water quality and conflicts over land use.

These protests focused on the Minister of Health — Henderson.

In 1969, he says, he instigated discussions which resulted in creation of Alberta Environment. Responsibility for environmental issues was shifted from a number of departments to the new department. The public had a focus for its protests and concerns. "We hoped to develop a single-window approach."

Shortly after the department was formed in 1971 the Social Credit government was replaced. Bill Yurko, the first Conservative environment minister, now the Independent MP for Edmonton East, took the helm.

"I was vitally interested in environment before becoming minister," he says. A chemical and nuclear engineer, he was in Chalk River during the nuclear accident in 1952-53, developed sulphur mining recovery techniques and witnessed first-hand the worst effects of industrial air pollution.

He attacked his job as minister of environment with the fervor of an evangelist. "One of my policies was that unequivocally all environmental information was public information if it impinged on the public domain."

The job wasn't easy, he says. "The environment department is one of the most difficult departments to administer because the technical nature of the problems are so complex and the interrelationship between the public and industry is difficult. It's easy for these ministers to become defensive." He



Barry Worbets and Jim Carmichael

describes himself as "a strong minister because I understood the technology as well as the political aspects" of environmentalism.

"There has to be a balance between the quality of life and health standards. The balance has to be extremely closely watched, especially now. People will want jobs more than clean air. But the basic standard of the quality of water and urban air has to be maintained."

If balance is important, so is flexibility, for "a global perspective is not possible. For instance, I could relax effluent restrictions on a plant near a small town because there was no other source of pollutants. If there were another dozen plants producing pollutants, there would have to be stricter standards."

While institutionalization began with government, in the heady days of the late Sixties and early Seventies it spread, notably into education. Tom Beck credits the elementary and secondary school systems with developing an environmental ethic, or consciousness, which now permeates society.

"It really was school teachers who developed a concern and awareness among young people. (Education institutions) put pressure on government to improve its track records." And after government, industry.

William Perks, first Dean of the University of Calgary's faculty of environmental design and now a professor of urbanism and planning, describes the process: "When I arrived here it was a black-and-white battle between the pristine environmentalists and business interests. The protestors still have their value, in not allowing the new profession of environmental science to be co-opted. On the other hand, as constructive participants in issues, they're limited because they're so narrowly defined in their own disciplines."

The faculty recognized "interdisciplinary approaches" were required to deal with complex environmental problems, so students

were exposed to a "spectrum" of disciplines from sciences to applied arts. He notes "it must have been something of a success" because graduates of the faculty of environmental design entering government and corporations were given "very responsible positions" within very short times.

Another encouraging sign is that environmental problems are "no longer confined to engineering development. We've helped broaden awareness there can be development with environmental sensitivity. We've moved away from the rhetoric of the Sixties, as a result of interdisciplinary education."

Perks admits the faculty was "very suspect in the early Seventies", but after non-histrionic involvement in several environmental issues, they "gained credibility as constructive professionals."

Barry Worbets is one of those new professionals. He has a master's degree in environmental design from the University of Calgary and is now the supervisor of Canterra Energy's environmental affairs department and chairman of the Canadian Petroleum Association's environment planning and management committee.

His interdisciplinary approach is "critical" to his job. "The whole field is interdisciplinary; in industry you have to work with geologists, engineers, environmentalists" as part of the decision-making process. "I find a lot of personal gratification in my job. If you have strong principles and education, you can act quickly and effectively to solve environmental problems."

He says the movement is more effective now because "it has a much broader base — there are so many more people in government, industry and the public involved in protection of the environment."

John Railton, head of TransAlta Utilities' environmental planning branch, is a zoologist and plant ecologist who gravitated to private industry because "the people

making environmental decisions were not environmentally trained. I wanted to influence those decisions."

TransAlta formed its environmental planning branch in 1975 after a project was delayed until it was proven site reclamation was possible. "The company realized environmental problems could halt development, and that there had better be some in-house expertise."

But it took a long time to earn credibility. "When I came here, a lot of people who had been here 30 years said: 'who's this?' You can't get into business and not learn about economic imperative. To get my goat, people would say to me 'you're the guy who costs us the money (about 10 per cent of our costs are for pollution abatement). Yet in one instance (we spent) \$75,000 and saved the company \$2- to \$3-million a year in reclamation costs. After eight years we can demonstrate we've been effective for the company and the consumer."

Bob Scace, the senior consultant for environmental sciences for Reid Crowther and Partners Ltd. consulting engineers, agrees corporate concern for the environment mirrors a general trend in society. "People are more thoughtful in their day-to-day activities. It's a more considered, thoughtful society."

Reid-Crowther developed its environmental group in the early Seventies in response "to the fact engineering jobs were starting to include biological or cultural requirements." The group now has about 15 consultants, who are encouraged by the company to pursue outside environmental interests to develop "a broader view."

And finally, citizens are turning to the law to arm themselves to fight battles for which industry seems so much better armed. The Environmental Law Centre, created in 1981, is there to assist. Executive director Linda Duncan says it does environmental and natural resource law research, monitors environmental policies and practices, and acts as an environmental law referral service.

Sharon Adams is a Calgary journalism instructor and freelance writer

Norma Ramage

The Public View

"There is definitely a heightened awareness and concern all over this province . . ."



DICK PHARIS

If John Businessman walks to work instead of taking his car, what does that tell us?

Does it mean he's environmentally aware and concerned about the damage exhaust fumes can do? Or does it tell us he's into the latest fitness craze? Or does it mean only that parking space and gasoline are so expensive it's cheaper to walk?

Solving this kind of conundrum is the problem facing anyone trying to assess the effect environmentalism has had on the day to day lives of Canadians.

A relatively recent phenomenon, the environmental movement became widespread in the late 1960s and early Seventies. The question is whether or not it has really had time to touch our lives at anything below a surface level, to affect the way we live, the way we think, the way we act. Or is it, like health foods and Nehru jackets, simply a passing fad whose time has come and gone?

David Anderson, former head of community relations with Alberta Environment

and a man involved in environmentalism since its beginnings, says he would like to be an optimist about the environment movement's affect on our lives. "I don't know whether the environmental concerns have permeated people's consciousness to the point where they do things differently, although I'd like to believe they have."

But Dr. Frank Tester of the Arctic Institute of North America in Calgary says his studies of the environmental movement here and abroad leave him doubtful of the movement's impact.

"There have been changes in people's awareness over the last decade," says Tester, "but if you're asking me whether that translates into changes in their day to day living, I'm skeptical."

On the other hand, Calgary social anthropologist David Evans believes people are being affected by environmentalism.

"There is definitely a heightened awareness and concern all over this province about environmental issues," says Evans, who

makes his living as an environmental consultant working on behalf of community groups.

And Dr. Donald Chant of Toronto, former head of the Canadian Environmental Advisory Council, feels that "environmental concerns run as a thread through most people's lives today."

Chant, who is also head of Ontario Waste Management, says he "doesn't know of any person who doesn't do something in his life today, no matter how trivial, because of environmental concerns."

And there is concrete evidence to support both Evans and Chant. Take, for example, the environmental planning and study departments that are now major components of most Canadian mining, oil, gas and engineering companies. The environment department of one major Canadian oil company started out with one man and has now expanded to two floors of the company's Calgary headquarters.

And there's the media response. Most major Canadian dailies now have a reporter specializing in the environment and in environmental concerns.

Government awareness and involvement in environmental concerns has also accelerated. The federal government and its provincial counterparts have introduced a wide range of legislation regulating everything from sewage disposal to air quality and every Canadian political party has a statement on environmental issues as part of its platform.

Catalytic converters to control air pollution are now mandatory on all cars operated in Canada and most major North American highways have had speed limits reduced.

On the individual level, there have also been some changes. For example, people using the outdoors have become more aware of potential damage to the environment, says Doug Wellock, director of visitor services at Jasper National Park.

"I think people are definitely more aware of environmental concerns today," says Wellock.

"Some of the increased sensitivity was



DICK PHARIS

offset for a while by the sheer number of people that started using the parks in recent years but I'm constantly amazed at how good people are."

Pat Kariol of the Calgary Sierra Club agrees with Wellock, saying she has heard of more concern by wilderness users.

"I was told that in Kootenay Park, for example, they're seeing much less litter on the trails," says Kariol.

And recycling, something that started in the early days of the environmental movement, is still a going concern, according to Tom Rogers of Alberta Environment's Waste Management Branch.

"There was a lot of paper recycling right up until 1980-81 when the bottom fell out of the market because of the decline in the building trade that uses the recycled material," explains Rogers.

"But paper recycling is still going on and currently we've got a lot of people talking to us about it again."

Rogers says the provincial government has a variety of incentive grants for any group interested in recycling things like paper, glass, metal and oil, adding that in the last while "we've seen a rising interest on behalf of municipalities."

But the picture isn't all positive. For example, Rogers concedes that no Alberta municipal governments participate in the incentives program despite the fact that the province pays 100 per cent of capital costs. Recycling is left to smaller groups, usually charitable organizations or small businesses.

And other people are questioning how much of what we do is actually done in the name of economy rather than from concern about the environment.

Anderson, who now works for Alberta's department of Federal and Intergovernmental Affairs, says, "I'd like to think otherwise but I bet if the price of gas went down to 50 cents a gallon, people would go back to buying big cars. I don't think they buy small cars because of conservation reasons."

The U of C's Tester doubts that the last 10 or 15 years of environmental action have really accomplished much that's concrete.



Dr. Donald Chant

"I don't think people throw out less garbage now than they did 20 years ago. In fact, I know they're throwing away more. And there are more nuclear power plants in Canada in 1983 than there were in 1972."

He points to other indicators such as the return of beer and pop cans and the U.S. decision to allow cars to be built without catalytic converters.

But to many supporters of the environmental movement, these kind of examples are relatively unimportant responses that change from year to year. They believe the real impact of environmentalism is to be found elsewhere, in deep rooted changes in attitude among people in all walks of life.

Says Chant, "Young people who were part of the environmental movement in the last decade are scattered now through government and industry and their attitudes and concerns haven't changed."

Kariol says one of the movement's

A 1972 Alberta Wilderness Association clean-up at Pinto Lake in the Whitegoat Wilderness area (left and opposite page) A helicopter hauled out several tons of litter left by careless hikers.

strengths lies in its institutionalization, its success in becoming a part of government and industry and Chant agrees.

"We've created mechanisms to effect change. When the movement started 20 years ago, there was nobody with power you could talk to. There was just the media and public meetings as ways to get the message across. Now there are ministers of the environment and groups at all levels of government and industry.

He also sees a hopeful portent in the kind of people in government environment portfolios.

"Look at Charles Caccia (the present federal environment minister). He was an early supporter of Pollution Probe and he's making speeches now that are better than I used to make. A few years ago he wouldn't have stood a chance of getting a Cabinet portfolio. He would have been considered too radical."

Today's environmental advocates, says Chant, are better prepared, more knowledgeable, able to work with more than just emotion and frustration.

John Shires, head of the environmental assessment division of Alberta Environment's community affairs branch, agrees that today's environmentalists are more sophisticated and, as a result, more effective than the placard-carrying demonstrators of a decade ago.

"Today's activists are willing to sit down and talk with government and industry and to co-operate with them," explains Shires.

"But it's not just the activists who are more knowledgeable," he adds. "We are also finding, generally, that we are dealing with a much more aware and educated public sensitive to environmental concerns and knowledgeable about what can be done about them."

But despite this increase in awareness, many people concerned about environmentalism feel the final victory will be won or lost in the classroom. And people like Reg Houghton, principal of Keeler Elementary in Calgary, are happy about the battles that are being won.

Recycling at Edmonton's Western Industrial Training Centre. Trainees are tearing glossy covers from magazines so contents may be recycled.



BILL MCKEOWN

"There's no doubt about it, students of all ages are much more environmentally aware today than they were 20 years ago," says Houghton, formerly environmental education co-ordinator for the provincial education department.

"The curriculum guide shows environmental connections in Grade One," says Houghton, who also designed the new environmental curriculum introduced to the province's schools this year.

This environmental education component becomes more intense in later school years, says Houghton, and there's also a large number of option courses dealing with the environment.

"The students really get involved. For example, we've had students studying the Lodgepole blowout and some students recently did a marvellous investigative study, and one that created a lot of comment, about the Red Deer River diversion project. At another level, here at Keeler we have Grade Six students studying the causes and solutions for litter and other pollution in the playground."

Houghton recently conducted a survey

for Alberta Education which discovered that 32 per cent of parents surveyed felt their child's attitude toward environmental concerns had improved because of school work.

"That's an absolutely amazing percentage when you consider most parents think their child's attitude is already perfect. I would have been impressed by 10 per cent," says Houghton.

Annette Ruitenbeek, a member of Greenpeace and a Calgary environmentalist, is also impressed by students' awareness.

"Kids today are scared and they're committed. I'm very hopeful when I see little kids with pictures of Harp seals on the walls and even more hopeful when they can talk to me about the problems involved."

The situation is similar in Ontario where "there's a great hunger for environmental material in the schools," says Donald Chant.

And, says Chant, universities and colleges that thought themselves progressive 10 years ago because they brought in an occasional guest lecturer now have entire departments of environmental studies.

But if the battle is being won in the classroom, it may be being lost in the market

place. The big worry today among those concerned with environmental action is that the recession will leave politicians and businessmen with some difficult choices.

"I already see the recession having an effect," says Tester. "In hard economic times, companies will use the line they have always used. Make us do something environmentally safe, they'll say, and we'll go bankrupt and you'll lose 250 jobs."

Some environmentalists feel that a lot of their hard-won environmental awareness among the public will go out the window if the man in the street has to choose between clean air and a job.

However, when pressed, most people in the movement remain confident that in the long run, environmentalism is sufficiently deep-rooted to survive even hard economic times.

Says Evans: "We're really in the end very selfish, survivalist beasts and if the trouble is real and now, it will over-ride even economic concerns. We'll come through the other side."

Norma Ramage is a Calgary journalism instructor and freelance writer.

Prepared by Doug Ramsay

Using Environment Views in the Classroom

Students at the Bennett Environmental Education Centre in Edmonton studying aerial photographs.



BILL MCKEOWN

"One theme lies at the heart of every environmental issue — the need for mankind to assume full responsibility for the care and feeding of this planet."

The environmental movement in the 1980s is faced with a number of significant problems which are critical to the continuation of the movement. Both students and teachers need to be aware of these problems and their importance to the health of the Albertan environment. This issue of *Environment Views* deals with the background and present state of affairs of the environmental movement in general and specifically in Alberta. The next issue of *Environment Views* will concentrate on the future of the environmental movement. Together these two issues raise some important areas of interest and concern for Social Studies and Science classrooms.

If we believe, as Norma Ramage states in her articles that, "the final victory will be won or lost in the classroom," teachers will have to become more aware, more concerned, more informed and more committed to the problems raised and solutions proposed

by the environmental movement. These issues of *Environment Views* will be important resources in assisting the teacher in this regard. Therefore, rather than give teachers specific suggestions for use in Social Studies and Science classrooms the following is an outline of a number of concerns extracted from the articles in this issue of *Environment Views*. These concerns will give teachers an overview of the problems raised by the environmental movement and, used in conjunction with the next issue of *Environment Views*, a strategy for their use in the classroom.

Concerns for the Classroom

A. History

Concerns

- environmental goals of the 1960s: realistic or idealistic?
- material growth vs. protection of the environment.
- growth of individual awareness of the environment.

B. Economic

Concerns

- neglect of immediate costs vs. long term hidden costs to the environment.
- environmental concerns in a depressed economy.

C. Awareness

Concerns

- what has been the impact of the environmental movement on the general public?
- how does awareness translate into educational involvement?

D. Issues of the '80s

Concerns

- what are the issues listed by certain environmentalists of the 1980s?
- who's responsible for what?
- how can complex issues be broken down into specialized areas of concern?

If undelivered, return to:

Environment Views
Alberta Environment
9820 - 106 Street
Edmonton, Alberta T5K 2J6

093-1900-0404853

CANADIANA ACQUISITIONS DIV.-GOV'T DOCU
NATIONAL LIBRARY OF CAN.
OTTAWA ONT.
K1A 0N4

Environment Update

Land Use Hearings

The agricultural land use hearings of the Environment Council of Alberta ended in December with six days of hearings in Edmonton. Through the course of the hearings which were held at 17 locations throughout the province, 260 briefs were heard. About 1,200 people attended. A final report and recommendations are expected by the fall of 1984. Written submissions are still being accepted. For further information, call 427-5792 in Edmonton; Zenith 06075 outside Edmonton.

Regulatory Boards Seminar

The Canadian Institute of Resources Law will be holding a seminar on regulatory boards and the oil and gas industry in Alberta, at the University of Calgary, March 15, 1984. Designed to provide a working guide to the complexities of the regulatory scheme, it is of primary interest to lawyers in industry and private practice who require an introduction to this area of administrative process, but will be useful to non-legal personnel involved in the preparation of regulatory applications. Registration fee of \$160 includes full materials and lunch. For more information call Shirley Babcock (403) 282-9197.

Decision-making

The Alberta chapter of the Canadian Society of Environmental Biologists is holding a one-day symposium on *Decision-making: the role of environmental information*. It will be held at Red Deer College, Red Deer, March 17. Speakers from government, industry and public interest groups will discuss how decisions related to major resource development are made and how environmental information is used in this process.



BILL MCKEOWN

This symposium will be of interest to people who use or generate environmental information or who are interested in influencing the decision-making process.

Registration information: Dr. Allan Garbutt c/o 807, 5240 Calgary Trail, Edmonton T6H 5G8, 434-1372.

For further information on the Society of Environmental Biologists, call John Lilley at 427-5792 or Lewis Cocks at 420-2600.

Environmental Mitigation Symposium

A symposium on *Environmental Mitigation: Solutions to Problems* will be held on April 24-25 at the Westin Hotel, Edmonton, co-sponsored by the Alberta Society of Professional Biologists, the Energy Resources Conservation Board, and Alberta Environment. As the title suggests, the aim of this symposium is to focus on what is expected of environmental mitigation and how success may be achieved.

Among the speakers who will be featured are: *Hon. Fred Bradley*, Minister of Environment; *Vern Millard*, Chairman, ERCB; *Gordon Pearce*, Coordinator, Slave River Hydro Project, and *Alex Hemstock*, Presi-

dent Elect, Engineering Council of Canada.

For further information or registration forms contact Don Thompson (403) 429-9110 or write the Alberta Society of Professional Biologists, P.O. Box 566, Edmonton, Alberta, T5J 2K8.

Forest Resource Proceedings

The Proceedings of the Banff Centre School of Management's 1981 Resource Management Conference on *Canada's Forests: Transition to Management* are now available from the University of Calgary Press. The Proceedings, edited by Barry Sadler, are described as "as blueprint for the management of Canada's forests in the Eighties. Price: \$10.00. The Proceedings may be ordered from the U of C Press 2500 University Dr. N.W. Calgary T2N 1N4

If you have a short news item of province-wide interest you'd like to contribute to *Environment Update*, please send it to the editor at the address on the Contents page. The editor reserves the right to select and edit the items.